Teaching Economics at the University Level Dynamics of Parameters and Implications*

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Abstract

This paper investigates various changing aspects in the teaching of economics within the context of the dynamics of parameters. These include inter alia the role of effective communication, clarity of lecture notes, ability to focus on the centrality of theme, teaching and learning environment, and ability to illustrate with examples. It also notes the changing perception of indicators of good teaching over the two points in time in which data were collected.

Two central ideas permeate the study. Firstly, the approach to teaching must be consistent with the needs and aspirations of the student population who collectively form a highly heterogeneous entity while at the same time displaying discernible stratification with distinctively identifiable group expectations and preferences. Herein lies the significance of a greater importance of contents rather than presentation per se. Secondly, it argues that teaching is much more than what can be realistically achieved during the classroom lectures. This paper underscores the critical importance of a teaching system research model embodying a holistic rather than a piecemeal approach to teaching and learning that is applicable to a range of circumstances with significant implications that extend far beyond the classroom.

Keywords:	McDonaldization of higher education, Diversity of student clientele, Indicators of good teaching; Asymmetry of communication and expectation; Market failure, Economies of scope; Teaching system research model.
Subjects:	340000 Economics

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Teaching Economics at the University Level

Dynamics of Parameters and Implications

1 INTRODUCTION

The teaching and learning context of economics at the university level has undergone profound changes over the last two decades. This has resulted from issues of changing labour relationship, government involvement, curriculum and technology underpinned by what some authors call the process of "McDonaldization" of higher education (see, for example, Hayes and Wynward eds., 2002; Margolis 2004, p.368). These represent a global[1] as well as an Australian[2] phenomenon. According to Poynter (2002, pp.64-67) (in Britain) the process has seen a significant increase in student-teacher ratios, mass classes and the use of low wage teaching assistants and adjunct faculty which have manifestly changed the job of professor (Margolis 2004, p.368). Poynter (2002, p.67) further observes that 'the modularization of knowledge into bit-size chunks, and the reinvention of the student as consumer has played an increasingly significant role in assisting in the creation of a new kind of malleable workforce'. The process has led (1) to commodification of education that student increasingly perceive as a commodity for consumption and seek "edutainment" and (2) higher education to enter into new market-oriented forms of relations with their student consumers and the business world[3]. The fundamental business dictum that the customer (in our case student) knows best fundamentally alters the teacher-student relationship readily manifesting in 'consumer satisfaction' surveys which now form an integral part of the industrial relations domain at the university level (Furedi 2002, pp. 36 ff).

This process has resulted in establishing the primacy of the vocational and professional orientation with a discernible trend away from what used to be primarily academic focus. An increasing diversity of the student clientele is both an important cause and consequence of this changing environmental context in higher education. Added to the above is the nature of the economics discipline itself that puts some constraint on hands-on solutions or application to

[1] Almost the entire volume is devoted to British experience. One surprising aspect is the deeper penetration of the process of McDonalization in Britain than in the United States (see, for example, Furedi 2002).

[2] Changing public policy both in terms of funding as well as facilitation of the conversion, mergers and takeovers of the former colleges of advanced education (CAEs) with established universities; and market expansion for higher education as an export good *inter alia* epitomise the process of change in Australia.

real world issues instantaneously that the changing environment might be demanding of the academic economists at higher education institutions. The constraint endogenous to the discipline itself is typified by the following observation from Keynes (Keynes 1922, p.v):

> The theory of economics does not furnish a body of settled conclusions immediately applicable to policy. It is a method rather than a doctrine, an apparatus of the mind, a technique of thinking, which helps its possessor to draw correct conclusions. It is not difficult in the sense in which mathematical and scientific techniques are difficult; but the fact that its modes of expression are much less precise than these, renders decidedly difficult the task of conveying it correctly to the minds of learners.

Furthermore, economics as a discipline has significantly declined in popularity (Siegfried and Round 2001; Millmow 2002; Maxwell 2003, Becker 2004[4]). These contextual changes brought about by factors both endogenous and exogenous to the economics discipline have greatly challenged economists in academia.

This paper identifies two primary stakeholders[5] in the teaching and learning process: the student (the consumer), and the lecturer (the supplier). Employing survey data from two points in time, it investigates various changing aspects and their impact on the teaching and learning of economics. The study identifies, compares and contrasts staff and student perceptions of various indicators of good teaching as well as course contents. It explores various issues including trade-off/synergy among different responsibilities of a university academic. More specifically it seeks to:

- Explore the dynamics of the university teachers' view of the changing academic environment for the teaching of economics and the extent to which it entails any trade-off between their teaching and research responsibilities and the extent to which it is consistent with the existing literature;
- Identify the dynamics of the university teachers' and students' perceptions of good teaching and expectations of course contents in terms of theory-application blend and

[3] Poynter (2002, p.64). See also Ritzer (1998).
[4] Since 2000 a slight improvement in economics degree enrolments has been observed in the United States see, for example, Siegfried, 2004).
[5] There are secondary stakeholders such as employer groups and client schools within a university system.

- preferences for applications to real world issues;
- Develop a teaching system research model as a conceptual framework.

This paper espouses two central ideas. First, the approach to teaching must be consistent with the needs and aspirations of a dynamic student population. It underscores the critical importance of rigour epitomized more by content than populism characterized by great delivery. The student population collectively forms a highly heterogeneous entity while displaying discernible stratification with distinctively identifiable group expectations and preferences and an underlying dynamics.[6] Secondly, it argues that teaching is much more than what can be realistically achieved during the classroom lectures. This paper also highlights the critical importance of a teaching system research model that embodies a holistic rather than a piecemeal approach to teaching and learning applicable to a range of circumstances.

This paper is organized as follows: Section 2 provides a brief discussion of the data and, student and course profiles. Section 3 presents and interprets responses from the staff members while Section 4 reports the responses to questions common to both stakeholders. Section 5 while providing a reflective perspective and the implications develops a teaching system research model. Section 6 provides concluding comments.

2 DATA, COURSE AND STUDENT PROFILES

The present study is based on primary surveys using structured questionnaires for students and academic staff in economics at a leading Australian university in 1998 and 2002. In the 1998 survey 232 students participated from two postgraduate and three undergraduate courses. In the 2002 round 159 students participated from one undergraduate course and one

[6] The highest degree of diversity is located at the lower ends of both the undergraduate and postgraduate programmes. Based on information on the student enrolments at a leading Australian university it was found that (1) in the even in the compulsory courses for most students one could find some students who have taken the course as an elective. Most students doing first year and introductory courses are enrolled in non-economics degree programmes; (2) three broad stratifications (such as an economics major, a non-economics major and a combination of and non-economics majors) by degree destinations can be applied even though students in one stratum may not necessarily constitute a homogeneous entity. For example, a student enrolled in an engineering degree and choosing an economics elective might have different expectations of the economics course from the student doing the same economics elective course and enrolled in an education or journalism degree; (3) the issue of heterogeneity in student clientele is probably more pronounced in case of introductory postgraduate courses than the corresponding undergraduate courses.

postgraduate course. Seventeen and fifteen staff members respectively participated in 1998 and 2002. The participants represented about half the teaching staff in both the survey years.

Appendix Table 1 captures the heterogeneity of the student clientele in various courses and across programmes. It is clearly seen that economics courses are overwhelmingly dominated by students from other disciplines or economics major combined with a non-economics major. There is also a high incidence of combined majors.

Table 1 sets out a snapshot of the profiles of the courses while Table 2 presents student profiles. As can be seen from Table 2 non-economics majors predominate in first level microeconomics while the opposite is the case with mathematical economics. The incidence of economics major combined with another programme especially within the business discipline is quite high as can been from enrolments in microeconomic policy. It can also be noted that the incidence was on the increase in 2002 relative to 1998. The postgraduate cohort is almost completely dominated by students enrolled in non-economics degrees and is characterised by a significant percentage of non-English speaking background students (NESB). A higher incidence of NESB students in postgraduate courses compared to undergraduate courses is clearly evident even though the latter appears to have doubled from 8.6 per cent in 1998 to 16.9 per cent in 2002 in microeconomic policy – second level undergraduate course. Thus the student population is continuously changing toward greater diversity.

3 CHANGING ACADEMIC ENVIRONMENT AND SOME RELEVANT MATTERS

Consistent with the objectives of this paper, this section deals with several aspects of the staff members' experience in dealing with changing academic environment. These are addressed by posing the following questions:

- Are flexibility and academic standards congruent or conflicting goals?
- How has the issue of student diversity and academic standards impacted on the staff members? How do academics assist students?

Table 1: Profiles of courses for which data were collected

Course (Level)	Aims and objectives	Sample (Population)	Assessment
1998 Survey			
Microeconomics (First)	Aims to provide a useful understanding of economics and insights into how the economy operates. It is a core, compulsory course for students doing the BEcon, BComm, and BbusMan degrees and is also compulsory for BA students doing an economics major. Primary focus: **Theoretical**	51 (208)	Tutorial test 1: MCQ (20%); Test 2: SAQ (20%); Final (60%)
Mathematical Economics (First)	Provides mathematical treatment of economic models and a deeper insight and understanding to the economics already learned. It is a requirement for enrolling in Economics Honours (except Economics History Honours). Primary focus: **Theory and applications**	47 (132)	Mid-semester test (35%); Final (65%)
Microeconomic Policy (Second)	Employs a blend of theory and applications to examine microeconomic policy issues including microeconomic reform, various sectors of the economy as well as market failure and competition policy. It is a compulsory course for students majoring in economics. Primary focus: **Applied and policy**	70 (174)	Mid-semester MCQ (35%); Final MCQ+SAQ (65%)
Ecological and Environmental Economics (Postgraduate, Higher)	Discusses selected issues such as market failures, externalities, pollution control, species preservation, natural areas, sustainable development, common property resources, global environmental and natural resources, conservation of renewable and non-renewable resources; evaluation techniques and case studies from the developed and the developing worlds. Primary focus: **Applied**	13 (17)	Assignment (40%) Final, long essays (60%)
Microeconomics for Managers (Postgraduate, Introductory)	Aims primarily to provide the students with a clear understanding of these theories and some of the implications in a real world context. It is hoped that at the end of the course students should be able to apply the theoretical tools in the real world business context. Prerequisite for progression to higher-level economics courses. Primary focus: **Applied**	52 (82)	Mid-semester: MCQ (40%); Final: Long Essays (60%)
2002 Survey			
Microeconomic Policy (Second)	Employs a blend of theory and applications to examine microeconomic policy issues including microeconomic reform, various sectors of the economy as well as market failure and competition policy. It is a compulsory course for students majoring in economics. Primary focus: **Applied and policy**	92 (180)	Tutorial participation and presentation (20%); Mid-semester Take home long essays (20%); Final long and short essays (60%)
Statistics for Business and Economics (Postgraduate, Introductory)	Covers a variety of techniques for measuring and analysing economic and business variables and is designed to provide a solid understanding of quantities concepts in economics, business and finance. It is a compulsory course for postgraduate degrees/diplomas in Commerce and Economics. It is also a prerequisite for progression to higher-level quantitative courses in economics.	68 (92)	Mid-semester problems solving (20%); Project, problem-based (40%) problem-solving (60%).

Table 2: Profile of students participating in the survey

Course enrolled	Degree enrolled in						Incidence of NESB students (%)	
	Economics major		Economics combined major		Non-economics major			
	1998	2002	1998	2002	1998	2002	1998	2002
Introductory Microeconomics	13.7	-	15.7	-	62.7	-	2.0	-
Mathematical Economics	61.7	-	25.5	-	12.7	-	10.9	-
Microeconomic Policy	42.9	28.6	51.4	61.5	5.7	9.9	8.6	16.9
Ecological & Environmental Economics	7.7	-	NA	NA	92.3	-	38.5	-
Microeconomics for Managers	7.7	-	NA	NA	92.3	-	43.1	-
Statistics for Business & Economics	-	16.2	-		-	82.8	-	78.8

- What effect did the dynamic environment have on staff members' other responsibilities such as research? Did the staff members indicate increasing workload?

3.1 The Flexibility-Academic Standards Nexus

In response to the question on the nexus between flexibility and academic standards staff members differed in their views. A third of the participating staff members in 2002 supported a view postulating a congruent relationship between the two attributes of the teaching and learning process. This contrasts with nearly 59 per cent support for the congruity hypothesis in 1998. The remainder of the responses seemed to support a conflicting nature of the relationship in both years. Thus there is an upward trend among academic economists to support a relationship of substitutability between flexibility and academic standards.[7] At both points in time, those who regarded them as conflicting goals implied that the rising trend toward greater flexibility had the potential to somewhat dilute academic standards or quality by compromising on analytical rigour or reduction in the number topics in a course (subject). Those who viewed the two as congruent goals implied that greater flexibility could lead to market expansion for courses and programmes. More importantly, their emphasis was on the

[7] A z-test of difference of proportions did not yield a statistically significant difference between two points in time at the usual 5 per cent level but it was significant at 7 per cent level.

diversity of the student clientele. The following two statements are fairly representative of the two schools of thought:

- They [flexibility and academic standards] conflict in the sense that each is expensive and there is binding resource constraint. Both are desirable, but the amount of positive interaction between them is small. Essentially more of one means less of the other…. By being too flexible might mean compromise on quality. While the average or below the average student type can benefit more the students at the upper end of the scale may miss out on quality.

- Students have the choice of attending lectures or not, and tutorials or not. They can work in groups or individually. … Part of any academic grading about what the lecturer does is to cater for the individual needs of the students. They can learn or muster material at varying paces. It is important for the academics to realise this and cater for this in lectures and/or tutorials.

3.2 Reflection as a University Teacher Dealing with the Issue of Student Diversity

Variability in student quality

Closely related to the issue flexibility-academic standards nexus is the issue of diversity of the student population. However, the matter of serious concern to most staff members was the high variability in the quality of the students. Note that teaching in this context refers primarily to classroom lecturers/tutorials and the views at both points in time seemed quite similar. The following statements typify the responses from the staff members.

- Student diversity in quality is [my] concern. There is a problem in some with greatly differing backgrounds. Either [I] have to teach at the lowest level or good students are bored or teach at higher levels and risk losing poorer students.

- The main area is in the teaching of economics. There are obvious benefits to be had from differentiated offerings. These, however, are expensive and we non-differentiate less in this area than we used to.

- With limited resources for streaming student diversity in quality and needs of individual students entails lecturing to the median student. This is clearly unsatisfactory.

In light of the above, and given that large class approach does not address individual needs of particular students much of the learning is likely to take place, literally speaking, outside the classroom, underscored the need for providing assistance to the students.

Assisting students

Some staff suggested designing courses to suit a differential clientele and assisting students through increasing the length of consultation hours and through PASS (Peer Assisted Study Sessions). Experience had shown that the attending students performed better relative to non-attendees. Students with higher incidence and intensity of consultation performed better and showed a deeper understanding of the subject (see, for example, Cook and Freeman, 2001). In respect of assisting students the following statements epitomise staff responses. As mentioned earlier, there was little or no difference in this regard at two points in time.

- I think that there is a need to tailor courses to student needs and backgrounds. At the moment large class approach does not address the needs of particular students. …. I attempt to allow diversity within lecture presentation, not in marking (for further details see Alauddin and Butler 2004b).

- The problem may be that for some the work may be too easy, for others it is too difficult. It is difficult to develop examples that appeal to all.

- Beyond the first year level more thought needs to be placed on course structures and demand.

3.3 The Impact of Changing Teaching Environment

This section explores the relationship between the two important responsibilities of a university academic, namely teaching and research, and the extent to which the changing

academic environment has impacted on the teaching-research nexus. It also explores the extent to which increasing work load is an emerging issue.

Teaching-research relationship

Increased demand for time devoted to teaching-related matters has conflicted with time allocated for research. A vast majority of academic staff members (nearly 80 per cent) at both points in time indicated that their research productivity has been affected. Trade-off between teaching and other responsibilities, especially research, was a major concern. Students have a higher expectation of their lecturers with fee-paying students being more demanding. The growth in Masters and PhD students has entailed more work for the academic staff members. These cut into research time even though supervision of research higher degree students resulted in some research spin-offs for the staff members. On the whole, however, the two goals seem to be conflicting rather than complementary.

How do the above compare with the findings of the existing literature? In a significant study Freedman (1987, p.275) found the relationship to very weakly related if at all. He went on to say that 'the likelihood that research productivity actually benefits teaching is extremely small or that the two, for all practical purposes, are essentially unrelated…. Productivity in research and scholarship does not seem to detract from being an effective teacher and *vice versa*.' In a subsequent study Fox (1992), argued that 'contrary to the mutuality perspective, the findings point to a strain between research and teaching…. Research and teaching do not represent aspects of a single dimension of academic investments, but are different conflicting dimensions. The relationship is stronger for faculty in BA than in PhD-granting departments'.

Hattie and Marsh (1996, p.529) employing a meta-analysis of 58 studies conclude that 'the common belief that research and teaching are inextricably entwined is an enduring myth. At best, research and teaching are very loosely coupled'[8]. However, Hattie and Marsh (1996, pp.529-30) further add that 'time on research is negatively related to time on teaching…. [T]ime on research was more critical in assessing the impact of time on outcomes, and it is far

[8] 'It may be that we continue to believe that research enhances teaching, in the face of enormous evidence that it does not, so that we can continue to justify the time we spend doing it to people who would rather see us use the time teaching' (Webster 1986, p.62).

from clear that there is a direct relationship of 1 hour for research to 1 hour for teaching.' Marsh and Hattie (1996, p.529) argue that 'those who spend more time on research do have higher research outcomes, but those who spend more time on teaching do not have similar outcomes from their teaching. There does seem to have a non-reciprocal research effect, in that time on research is more critical to outcomes than time on teaching'[9]. Following Feldman (1987), Marsh and Hattie (1996, p.529) further state that 'time on research probably comes from non-teaching times and there is, at best, not a one-to-one trade-off between time on teaching and time on research'

Employing agency theory Quiggin (2004, p.28) argues that 'the difficulty of observing, and contracting on, the quality of teaching, is a crucial reason for the joint provision of teaching and research activities. Paradoxically, perhaps, it is precisely this measurement difficulty that accounts for the lack of direct evidence on complementarity between teaching and research'.

In light of the above, it seems clear that the relationship between research and teaching is very weak and more likely they are independent constructs (Marsh and Hattie 2002). However, it is unclear if the above holds for the relationship between teaching and research in case of the economics discipline. There is very little empirical evidence available in the existing literature. The Hattie-Marsh study (Hattie and Marsh 1996) reported that of the 58 studies used in the meta-analysis 26 per cent came from the broad social sciences discipline. It was unclear how many of them actually related to economics. Furthermore, 28 of the 58 studies were dated 1975 or earlier while 23 were dated between during the 1976-85 period. Only 7 were published during the 1986-92 period. Therefore, bulk of the studies predate the period of globalisation when the massive changes have swept the higher education sector in the developed market economies including Australia. Fox and Milbourne (1999) while exploring the determinants of research output in Australian universities found a negative association between teaching and research. More specifically as Fox and Milbourne (1999, p.265) reported:

> If we take the measure of research which concentrates on international journals, a 10 per cent increase in the number of teaching hours reduces research output by 20 per cent. Similarly a 10 per cent increase in the number of research grants raises research output by

[9] This view seems to be supported by Guest and Duhs (2002) who argue that relative to teaching attracts greater

> 15 per cent.... if the real contraction in higher education funding after salary increases is of the order of 15 per cent and this is reflected by proportionate increase in teaching hours, we estimate that research output by Australian researchers will contract by approximately 30 per cent.

While the above is a significant finding and given the nature of the discipline the teaching-research relationship is more likely to be negative, only further research can establish confidence in these results.

Increasing workload

Both in 1998 and in 2002, the staff perception was that the changing teaching environment had led to increasing workload. What concerned some staff members was that the goal posts were changing and the expectations from the higher authorities were getting unrealistically higher. This view was more emphatically put in 1998. The net result was that staff had to put in extra hours a week to meet the university expectations resulting in overwork. It was also clear that other responsibilities had increased significantly. More time was required for preparation and visual appeal even though it was questionable whether it was necessarily synonymous with good basic teaching. The system may be biased in favour of popularity relative to analytical rigour and standards (for a range of possibilities see, for example, Alauddin and Tisdell 2000). It might also be noted that:

> ‘One possible scenario of changing effort of academic staff members of universities and the universities cum CAEs (Colleges of Advanced Education)is that the former increased teaching relative to research whereas the latter increased their research relative to teaching…. In both cases, the staff could have increased total effort which may be to some extent unpaid for….’ (Alauddin and Tisdell 2000, p.15).

attention and recognition.

4. AN ANALYSIS OF RESPONSES TO QUESTIONS COMMON TO BOTH STAFF AND STUDENTS

4.1 Teaching Evaluation

Considerable controversy surrounds the use of student rating as a measure of teaching quality. While it was severely questioned in the 1970s, by early 1980s most expert opinion regarded it not only valid but also of widespread use. In retrospect, however, as Greenwald (1997, p.1182) argues that ' … the older discriminant-validity concerns were not so much resolved as they were displaced from research attention by accumulating evidence of convergent validity'. While many studies[10] favour the use of ratings, they disagree on controversial points regarding interpretation and use of ratings data. Marsh and Roche (1997) emphasize that ratings like teaching are conceptually and empirically multi-dimensional and that both their validity and especially their usefulness as feedback could be undermined if this multidimensionality attribute was ignored. Greenwald and Gillmore (1997) argue that subtle introduction of leniency in grading can result from a quest for high student rating that can reduce academic content and hence analytical rigour on the one hand and feed grade inflation on the other. D'Apollonia and Abrami (1997) and McKeachie (1997) caution that while ratings provide valid information on teaching effectiveness, they should not be the only information source nor should they be over-interpreted and that their use could be improved. The present study agrees with Marsh and Roche (1997, p.1187) where they recommend that 'no single criterion of effective teaching is sufficient; and tentative interpretations of relations with validity criteria and potential biases should be evaluated critically in different contexts, in relation to multiple criteria of effective teaching, theory and existing knowledge'.

In light of the above, based on the responses to the question(s) relating to teaching evaluation the present study identified several essential ingredients of good teaching are set out in Table 3.

[10] See, for example, D'Apollonia and Abrami (1997); Greenwald and Gillmore (1997); Marsh and Roche (1997) and McKeachie (1997)

Table 3. Indicators of teaching and communication of enthusiasm as perceived by students and staff, 1998 and 2002

Indicator	Median score on a five-point scale (staff)		Median score on a five-point scale (student)	
	1998	**2002**	**1998**	**2002**
Clarity of lecture notes	4	5	5 (5)	5 (5)
Clarity of expression	5	5	4 (4)	4 (5)
Lecturer's ability to illustrate with examples	5	4	4 (5)	5 (5)
Lecturer's ability to focus on the centrality of theme in a topic	4	4.5	4 (5)	5 (5)
Clarity of OHP/PP materials	4	3	3 (3)	4 (5)
Speed of lecturing	4	3	3 (3)	4 (4)
Lecturer's personality	4	4	3 (2)	4 (4)
Lecturer's sense of humour	3	2	2 (2)	4 (4)
Lecturer's respect for students	3	2	3 (3)	4 (5)

Notes: A score in the range of 1-2 means that the indicator is not perceived to be significant at all. A score of 3 implies that the indicator is perceived to be moderately significant while a score in the 4-5 range means that the indicator is perceived to be very significant. Figures in parentheses are the modal scores. Figures in parenthesises are modal values.

The information contained in Table 3 clearly suggests that a clear emerging pattern. Student and staff members alike rated highly clarity of lecture notes and expression, lecturer's ability to illustrate with examples and focus on the centrality of theme embodied in a topic (concept mapping). One can notice, however, that students rated most indicators presented in Table 3 quite highly in 2002 compared to those in 1998. There are also noticeable differences in ratings of clarity of overhead transparency or PowerPoint materials, speed of lecturing, lecturer's personality, sense of humour and lecturer's respect for the student's rate much higher in 2002 than in 1998. Inter-temporal variations in ratings by staff members for the same indicators occur in the opposite direction with the exception of lecturer's personality which maintains the same rating at both points in time. It seems on the whole that the student perception of the indicators typify a much more dynamic pattern than the staff perception.What factors might underlie this dynamics? This might be the result of a much higher incidence of NESB students than in 2002 than in 1998. For example, the NESB students are likely to be more sensitive to the speed of lecturing and the quality of visual aids OHTs or PP presentations than the English speaking background (ESB) students. Lecturer's personality and respect for students are likely to feature more prominently in the perception of

good teaching for the NESB students than for the ESB students. Because of the 'special situation of overseas students trying to cope with an alien culture, society and environment as well as a new academic world, does mean that some small adjustments are necessary to the traditional boundaries of teacher's responsibilities' (Ballard and Clanchy 1992, p.89). Lecturer's personality and respect for students in this regard can come into their own as motivational factors and are to likely to underpin the lecturer's ability to communicate his/her their enthusiasm to the students. To many students this meant motivation to bring out the best in them by inspiring the students to put in extra work for higher academic achievement. Postgraduate students in the 2002 sample were enrolled in statistics the teaching of which poses problems of its own[11]. Creating a classroom environment where students can feel relaxed when going through the rigours of a highly demanding course like statistics is critically important. In this context, amongst other things, lecturer's sense of humour can be perceived to be a contributing factor to the relaxed environment. The relevant literature supports such a view (see, for example, Patrick et al. 2000; Schacht and Stewart 1990).

The preceding analysis of both the student and staff ratings of teaching effectiveness establishes it as a multidimensional phenomenon. This is consistent with a broad range of views in the existing literature (see, for example, Greenwald 1997; Marsh and Roche 1997).

4.2 Modes of Course Material Delivery and Lecture Presentation

Table 4 sets out the student perception of existing practices and preferred choices of mode of course material delivery and lecture presentation. Two indicators are used: average incidence defined as average number of cases in which they were delivered in one mode or another. While the latter is defined as a percentage of the total lecture time allocated to particular mode of presentation. Sometimes, the detailed form of lecture notes alongside the brief forms was posted on the web on top of being distributed as hard copies or making hardcopies available through the photocopy shop.

[11] The available literature provides ample evidence of the prevalence of 'statistics anxiety' among students (see for example, Onwuegbuzie 2000). See, also Alauddin and Butler (2004) for evidence in the Australian context.

Table 4. Student perceptions and views on course material delivery and lecture presentation: Current practice and preferred choice

Mode of course material delivery	Average perceived incidence of current practice (%)		Average perceived incidence of preferred choice (%)	
	1998	**2002**	**1998**	**2002**
Lecture notes in detail as hard copy	89.14	66.29	82.70	76.93
Lecture notes in detail on the web	34.07	62.61	61.04	61.68
Lecture notes in brief as hard copy	87.05	67.74	79.57	71.55
Lecture notes in brief on the web	43.95	57.73	63.03	63.03
Mode of lecture presentation	Average perceived intensity of current practice (%)		Average perceived intensity of preferred choice (%)	
	1998	**2002**	**1998**	**2002**
PowerPoint presentation	62.50	59.20	62.20	73.36
Overhead transparencies	60.75	49.46	53.02	38.79
Chalk and Talk	39.16	24.80	33.67	24.82

As can be noted, the website as a post box is becoming more popular and there is hardly any difference between what the students preferred and what they perceived to be the existing practice in 2002. This contrasts with the corresponding 1998 scenario. However, the 2002 data also show that the incidence of perceived existing practice of delivering lecture notes in brief or detailed form was a bit below the preferred choice of the students. Table 4 also reports the average intensity of the three modes of lecture presentation – PowerPoint (PP), OHTs and, chalk and talk. Note that it is not uncommon to use PP as the primary mode of lecture presentation to be supplemented by OHTs to portray diagrams and the corresponding explanatory notes and *vice versa*. While PP and OHTs are commonly seen as substitutes they could also be complementary modes of presenting lecture materials. Regardless of whether the predominant mode of presentation is PP or OHTs, the traditional technique of chalk and talk is perceived to be quite useful. The average intensity of the use of this mode declined from over a third of the lecture time in 1998 to just about a quarter in 2002. Furthermore, in contrast to 1998, the demand for and the supply of the chalk and talk mode seems to be in equilibrium in 2002.

Table 5 presents the distribution of student perception of existing practice and preferred choice of the theory-application mix and their potential use for tackling real world issues and basis for higher-level economics courses. One can broadly identify three demand curves: Primarily theoretical (Type 1); primarily applied (Type 2) and a 50-50 blend of theory and applications (Type3). Student perception of existing practice differs significantly from their preferred choice. An overwhelming preference for Type 2 and Type 3 demand curves typify the demand curves for economics courses. Only as small percentage of students' revealed preference represented the Type 1 demand curve both in 1998 and 2002. On the other hand, around 50 per cent of the students stated their preference for the Type 3 demand curve.

Table 5: Distribution of student perception of subject matter: Current practice and preferred choice

Aim and Objective	Current practice (%)		Preferred choice (%)	
	1998	2002	1998	2002
Course content				
Primarily *theoretical* (at least 2/3)	43.20	45.50	11.70	13.30
Primarily *applied* (at least 2/3)	15.90	22.70	32.40	37.20
About 50-50 theory-application mix	40.90	31.80	55.90	49.60
Potential for use in tackling real world issues				
Very important, immediately	24.70	31.70	48.30	47.10
Very important but not immediately	54.60	58.70	46.10	48.10
Not so important	20.70	9.60	5.60	4.80
Basis for higher economics courses				
Very important	71.50	83.70	73.00	81.20
Not important	28.50	16.30	27.00	18.80

Nearly half the students preferred the immediate applicability of techniques and concepts to real world issues. An equal proportion took a somewhat longer term view and expressed a preference for applicability but not necessarily immediately. While this perception is relatively static over the two points in time, the perception of existing practice seems to be dynamic. For instance, the 2002 sample signifies an increasing trend toward practical applications to real world issues (from about 25 per cent in 1998 to about 32 per cent in

2002)[12]. As for the basis for higher economics courses there seems to be little or no difference in student perceptions of existing practice and preferred choice at either point in time.

At this stage one might ask: why does the student perception of existing practice and preferred choice differ in regard to their expectation of the theory-application blend? Is the divergence between what is practised and what is preferred is wide as it appears? This paper argues that this dichotomy seems significant and it may represent what might be construed as a market failure. Several factors amongst others might be at work. These include (a) pedagogy in teaching, (b) failure to strike a balance between theory and application, and (c) theory less relevant to the understanding of real world issues.

One important underlying factor in all these is likely to be an asymmetry of communication and expectation in teaching which might have led to economics to be perceived less relevant to the real world the clientele is supposedly interested in. It could also be that the teacher, because of his/her knowledge and experience of the subject matter, takes a relatively longer term view than a significant percentage of the student population. There are often longer-term benefits from theoretical understanding which are not immediately obvious to the average student. The teacher feels that he/she must leave the student with analytical structures applicable in a range of future settings. Reducing this communication asymmetry is critically important. The remainder of this paper is devoted to the strategies and initiatives that might address this asymmetry.

5. REFLECTION AND IMPLICATIONS

Economics schools derive substantial economies of scope by offering a course (a product, essentially an input in the production of the output of graduates) apparently catering for the needs of a diverse group of students with different degree destinations and career aspirations. This is because the supply of a relatively homogeneous input generates outputs of graduates from different disciplines e.g. economics, business, arts. Following Besanko and Braeutigam (2002, pp.332-33) this can be conceptualised as under:

[12] Not statistically significant at the usual 5 per cent level.

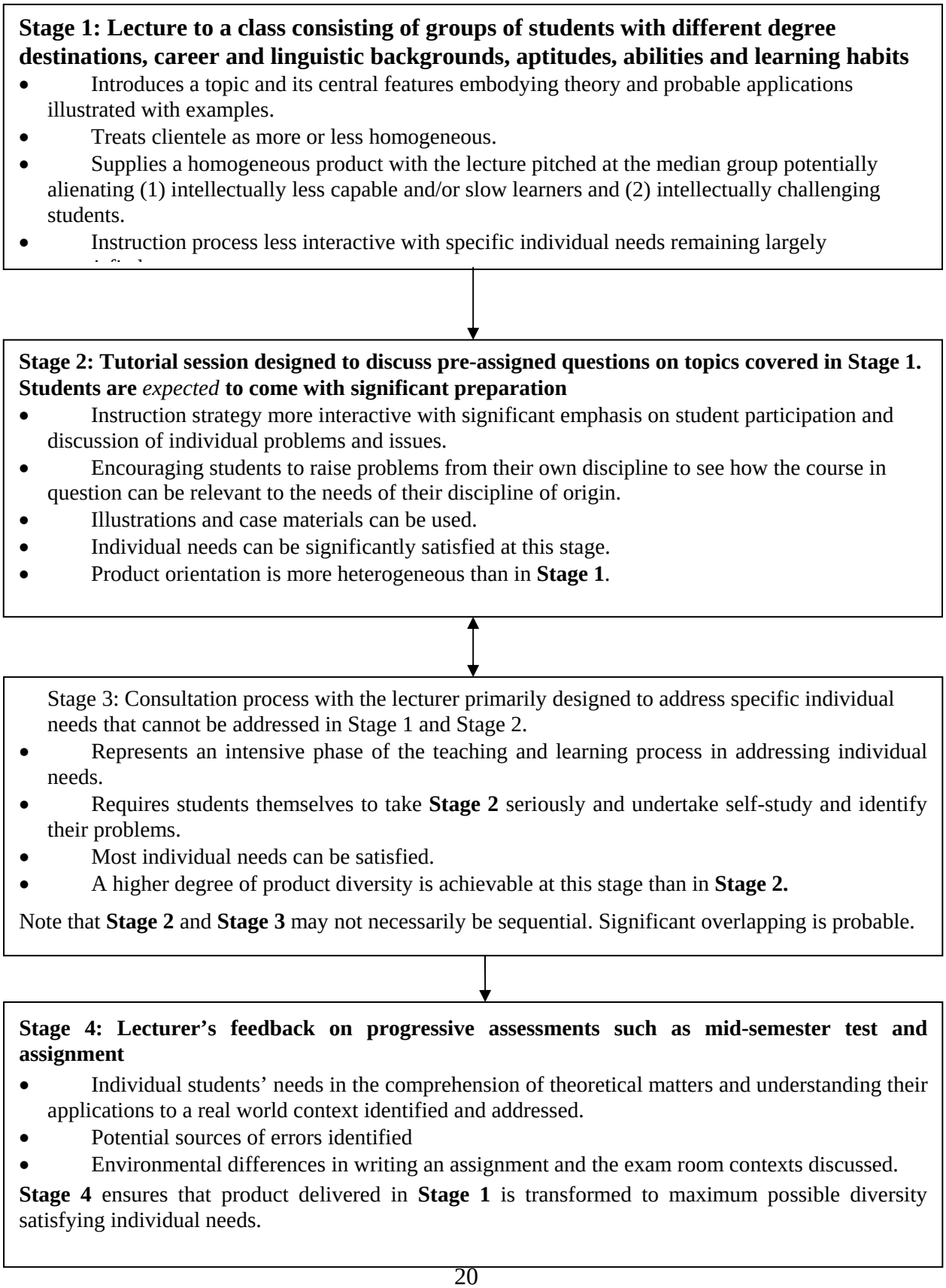
For simplicity of analysis consider a firm that produces three products. Total cost *TC* (Q_1,Q_2,Q_3) would depend on the quantity Q_1 of the first product (say graduate with an economics major), the quantity Q_2 of the second product (say a graduate with an economics major combined with another major) and the quantity Q_3 of the third product (say a graduate with a non-economics major).

In the context of the present study, serving say three client groups from the same offering, the firm (school) may be able to manufacture and market its products at a lower total cost than serving the three groups in three distinct streams on a stand-alone basis. These efficiencies are called economies of scope. Thus 'intuitively, the existence of economies of scope tells us that "variety" is more efficient than "specialization"' (Besanko and Braeutigam 2002, pp.332-33).

While the above analogy is useful, one needs to consider its implications in the context of teaching and learning. This can be conceptualised as illustrated in Figure 1. A hypothetical four-stage scenario epitomises a process of transformation of a homogeneous input into a heterogeneous one. To what extent are these stages likely to meet the expectations of the clientele? This is further illustrated in Figure 2. At Stage 1 the gap, on average, between the expected and actual outcomes, AB, is the widest. Successive stages characterised by a combination of intervention and initiatives by the staff member, and efforts expended by the student can progressively bridge the gap between what is expected and what is actually achieved i.e. GH<EF<CD<AB. In the short run, however, it is unlikely that the divergence could be reduced to zero. While the subsequent steps can go a long way toward alleviating learning difficulties with conceptual issues and their applications, to many students **Stage 1** may represent the most critical of all. As Salemi (2003) puts it:

> You will be tempted to "have your cake and eat it too" by promising out-of-class assignments where students practise using economic ideas. These are not good substitutes for well-designed in-class exercises. It is important that students interact with one another as they practise using economic ideas. It is also important that the instructor monitors student works during the exercises so that they can provide feedback and adjust their own teaching plan (see also Walstad and Saunders 1998, Becker and Watts 1998, Salemi 2002).

Figure 1: Economies of scope and stages in product transformation from product homogeneity to product heterogeneity



Note, however that, while the above is possible and can/should be practised in a class of relatively small class context in lectures, it is unlikely to be practicable in a large class lecture situation but is possible in tutorials or lab sessions. If the course content is interesting and the presentation and delivery is appealing it would be easier to motivate the students toward the subsequent stages. Note also that it could be long after the completion of the course and until the student has had encounters with real world issues beyond the frontiers of the academic world, can the full value of both the contents and the process be appreciated. The emphasis in this paper is more on contents than on presentation or visual appeal *per se*[13]. As rightly observed by Colander (2004b, pp.64, 74):

> When I think back to those teachers with great delivery and lousy content and those with great content and lousy delivery, it is the ones with contents whom I remember – the ones who convinced me that what they were doing was important. John Rawls, William Vickrey and Edmund Phelps all had horrendous delivery, but they had great content, and changed my life…. An economist without good content will not be a good teacher; they might get

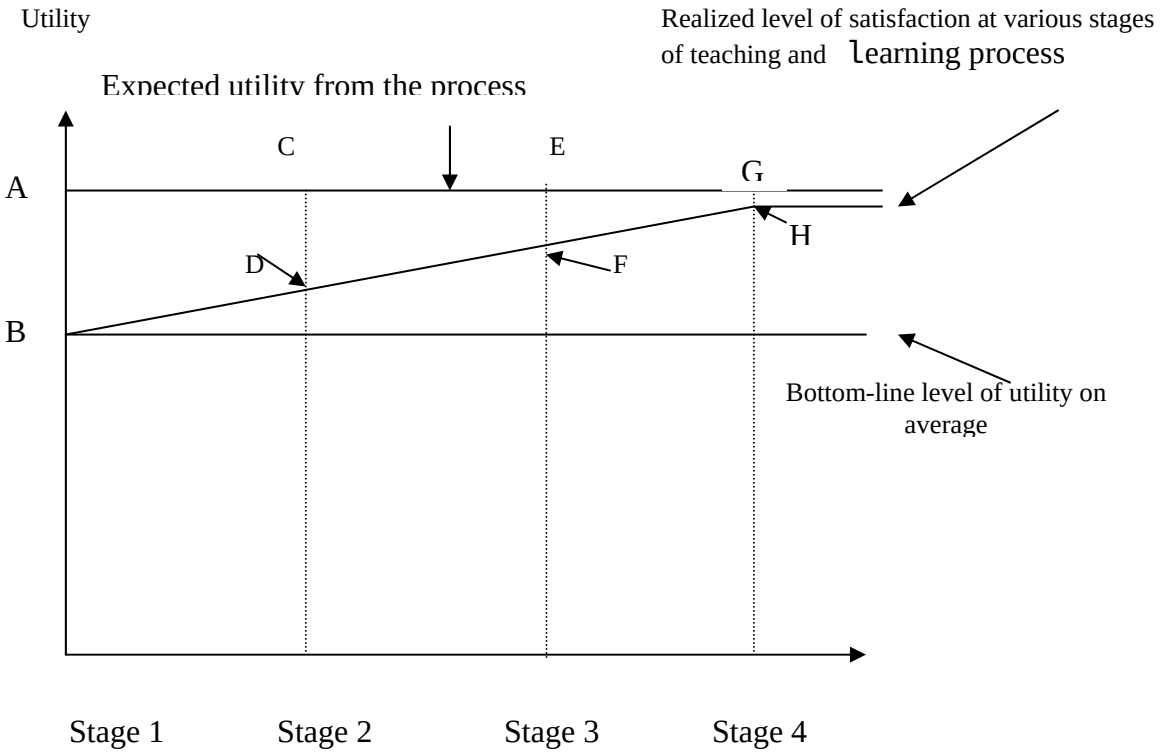
While the present study concurs with the broad thrust of the Colander argument one cannot ignore the importance of good presentation[14] given that administration places a great deal of importance on the customer satisfaction surveys as good presentation via the Dr Fox effect generates popularity of a course especially at the lower end of the spectrum.

The scheme outlined above entails greater resource intensity than the routine student support that a school might provide in the form of a few tutors for a course. This involves intensive training for tutors, consultation for longer hours, as well as putting in the best teaching

[13] Great presentation without any serious content could generate the so-called Dr Fox effect leading to what is known as 'educational seduction'. 'In a well-known study, a professional actor was hired to deliver a non-substantive and contradictory lecture but in an enthusiastic and authoritative style. The audience, consisting of professional educators, had been told they would be listening Dr Myron Fox, an expert on the application of mathematics to human behaviour. They were the asked to rate the lecture. Dr Fox received highly positive ratings, and no one saw through the hoax (Naftulin, et al.1973). Later studies have obtained similar results (Abrami, et al.1982), showing the audience ratings of a lecture are more strongly influenced by superficial stylistic matters than content. The conclusion seems to be that student ratings are heavily influenced by cosmetic factors that have no effect on student learning' (http://home.sprynet.com/~owl1/sef.htm).

[14] Tang (1997, p.383) found that the staff member 'answers student's questions effectively' and 'presents materials clearly' to be strongly correlated with overall teaching effectiveness' as perceived by students. (r=0.72 and r=0.74 respectively).

Figure 2. Stages of product diversification and the divergence between expected and realised level of satisfaction: A hypothetical scenario.



resources for the lower undergraduate and service courses**.** This might typify a process of teaching and learning in which economics courses are perceived to be of high quality in terms of contents and interesting and attractive in terms of presentation and delivery. While this might be expensive and resource intensive, several positive spin-offs are likely to result

- More students are likely to be inclined to switch to economics majors
- More students from other disciplines might choose economics electives

The analysis stemming from Figure 1 and Figure 2 can be considered to be in the context of a comparative static. However, for tangible results one must consider a dynamic context to which the paper now turns.

At the School (firm) level it is necessary to monitor the extent to which:

- Economics courses are useful in degree programmes offered by the client schools within the same university; and

- Lower-level courses in economics are useful for the higher-level economics courses.

The above must be an ongoing process. The teaching and learning committees at the school level need to take the necessary initiatives. The CEQ (course experience questionnaires) surveys are too aggregative to discern any meaningful micro-level patterns critically important to design programmes that are effective, relevant and attractive to students. In this context it is useful to consider what Becker (2004a, pp.14-15) says in his 'Good-Bye Old, Hello New in Teaching Economics':

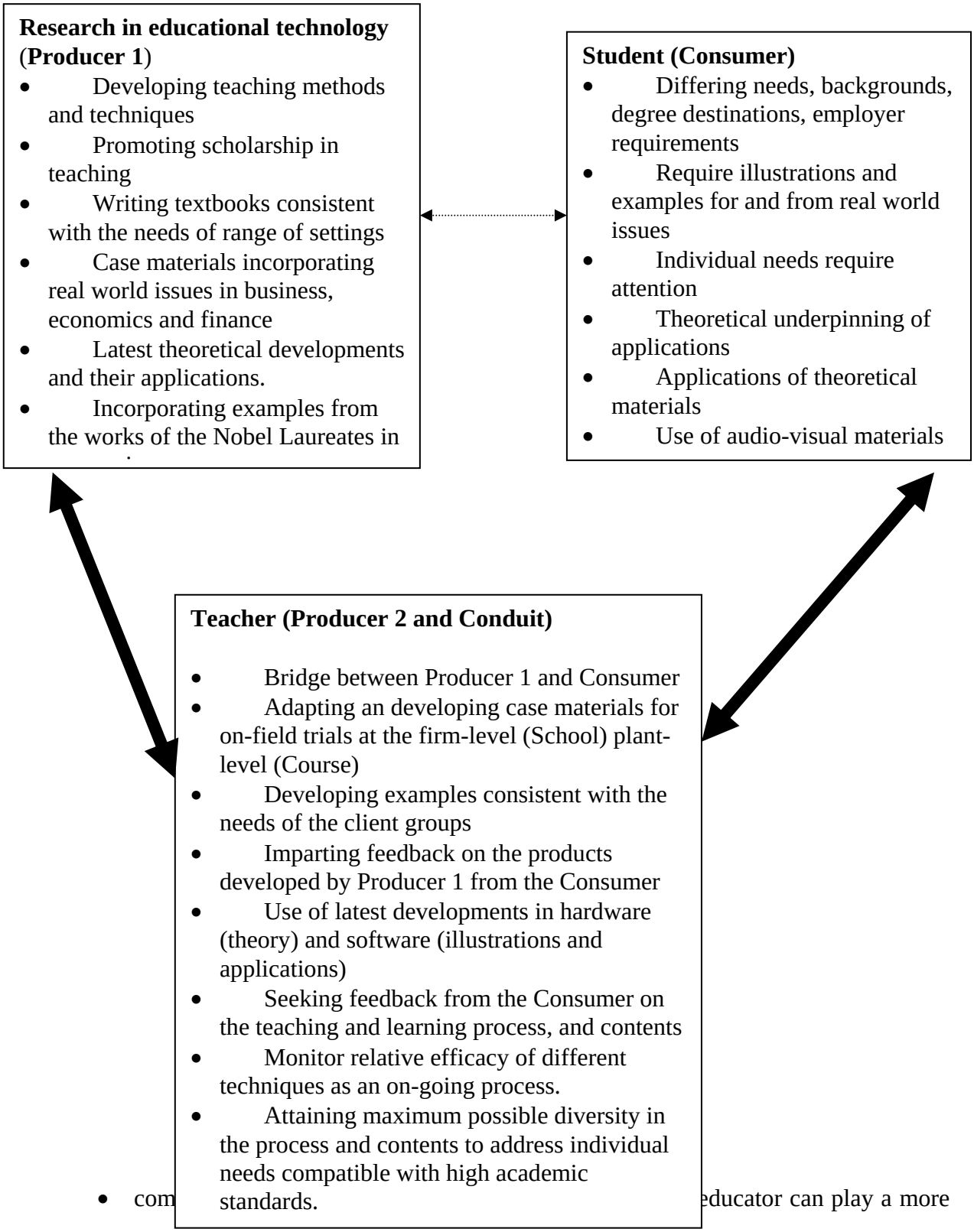
> [A]s a social science, economics is issue oriented and thus ridden with conflict. The dumbing down of economics to the dogmatic preaching of a few simple concepts, principles and axioms of old misses the excitement of modern day economics. The power of economics can be shown at the tertiary level by instructors updating their list of concepts, abandoning their reliance on chalk and talk type teaching methods, and changing their examples to reflect current social and political issues.

In light of the above, this paper espouses a systems approach to teaching and learning. We might call it a *Teaching System Research* (TSR) model. Given that teaching is essentially a transfer of knowledge from one group (teacher) to another group (student), this is analogous to the transfer of the technology model embodied in the farming system research (FSR) developed in the late 1970s (Gartner, 1990). The system includes researchers developing teaching and learning models, teachers as practitioners need to work together with the students to design, test and modify teaching technologies and contents to suit the clientele.

Like the FSR model, three basic principles are embodied in the TSR model (Figure 3):

- Joint effort by researchers (**Producer 1**, could be primarily textbook authors in lower undergraduate classes), educators (**Producer 2** and **Conduit**) and students (**Consumer**) to design, test and modify improved teaching and learning techniques

Figure 3: A teaching system research model. The density of the arrows signify the strength of interaction



- com ducator can play a more active role in terms than the textbook authors who are somewhat constrained by

the so-called 15 per cent rule[15]. What it means for the user of text is as Colander (2004a, p.39) puts it '[A] text is not a direct expression of what the author believes, but instead is a combination of much more complicated set of considerations in which inertia and process, not intellectual or even pedagogical validity, play central roles. Perhaps it can be no other way, but users of the books should be aware that that's what principles of economics textbooks are, and should structure their teaching an learning accordingly, adding context to the discussion wherever possible. In reading textbooks, the parallel to *caveat emptor* is *caveat lector*'.

- Teaching is seen as a holistic system incorporating important interactions that affect its performance. Depending on the degree of heterogeneity of the class an *abductive* approach (Colander 2004b, p.67) – a combination of deductive (*theory-first*) and inductive (*problem-first*) (Reiman 2004) seems relevant.

A multidisciplinary perspective to problem analysis, teaching technology designs, trials implementation and evaluation.In this model, activities include basic and applied research and on-field trials. Most work is done through on-field and maybe multi-location trials under classroom conditions to learn about the constraints that economic educators have to work within. The results can then be communicated to researchers (textbook authors) most directly by the educators and indirectly by the students. The conceptual model described above is elementary. Nevertheless it can be a useful start for comprehending economics education as a holistic approach.

[15] Colander (2004a, p.30) refers to 'the 15% rule, a rule of thumb dealing with the question of how much a major principles text can deviate from the "standard" principles text. The rule is: although a new book or a new edition of an existing book has some leeway in the presentation of material, it cannot differ from the standard presentation by more than 15% and still be seen as a mainstream book'.

6. CONCLUDING COMMENTS

Economics education is at the crossroads. In underlining the importance of teaching, Becker (2000, pp.117-18) rightly argues that:

> Whether students will take more courses in economics or choose to major in the field because of improved teaching is hard to say, but, at least, improved teaching is unlikely to hurt enrolments! More broadly, a few courses in economics, and perhaps only an introductory course, are often the only interaction that the college graduates of tomorrow will have with the economics profession. Because they are the only opportunities that academic economists will have to educate the citizens and voters of tomorrow, they deserve our best efforts.

This paper argues that both teaching primarily in terms of the contents and to a lesser extent presentation are critically important for economics to be relevant to the needs of an increasingly diverse clientele. However, as Becker (2004b) argues that economists must resist the tendency to leave teacher training of their students to non-economists which seems to be widely prevalent (Walstad and Becker 2003). As Becker (2004b, p.10) puts it ‘Contrary to the fundamental assumption behind the general books on instructional methods, teaching any discipline within higher education consists of a blend of generic skills combined and weighted heavily with the ethos of the discipline, which the general education specialists cannot provide’.

Appendix Table 1: Heterogeneity of Student Clientele by Degree Destination in Selected Courses at a Large Economics School

Degree Destination	**2001**	**2002**	**2003**	**2004**	**2001**	**2002**	**2003**	**2004**
	Microeconomics – First Year							
	Number enrolled				Percentage of total			
Economics major	63	70	65	70	3.94	4.07	3.72	4.12
Economics major combined with another major	129	128	113	130	8.06	7.44	6.48	7.66
Non-economics major	1409	1523	1567	1497	88.01	88.50	89.8	88.21
Total	1601	1721	1745	1697	100	100	100	100
	Macroeconomics – First year							
Economics major	51	60	64	55	5.55	7.07	7.50	6.41
Economics major combined with another major	117	114	110	122	12.73	13.43	12.90	14.22
Non-economics major	751	675	679	681	81.72	79.51	79.60	79.37
Total	919	849	853	858	100	100	100	100
	Quantitative Analysis -1 – First Year							
Economics major	63	84	82	74	5.51	5.80	6.03	5.31
Economics major combined with another major	133	158	116	142	11.64	10.90	8.53	10.19
Non-economics major	947	1207	1162	1177	82.85	83.30	85.44	84.49
Total	1143	1449	1360	1393	100	100	100	100

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